

**CLAIMS:**

1. For use in a permutation lock, the combination of a bottom tumbler and nose element and a knob and dial element:

5       the knob portion of the knob and dial element defining an axially extending female recess, the recess having a plurality of radially varying formations symmetrically disposed around the circumferential surface of the recess; and  
10      the nose portion of the bottom tumbler and nose element comprising an axially extending male nose, the nose having a plurality of radially varying formations symmetrically disposed around the circumferential surface on the nose, the nose being adapted to fit within and engage the knob and dial recess in any one of a finite plurality of angularly spaced apart positions.

2. For use in a permutation lock, the combination of a bottom tumbler and nose element and a knob and dial element:

20     the knob portion of the knob and dial element comprising an axially extending female recess, the recess having a plurality of flats disposed symmetrically around the circumferential surface of the recess; and  
25     the nose portion of the bottom tumbler and nose element comprising an axially extending male nose, the nose having an equal plurality of flats disposed symmetrically around the circumferential surface of the nose and being adapted to fit within and engage the knob and dial recess in any one of an equal plurality of angularly spaced apart positions.

3. The combination according to claim 2 wherein eight flats are formed on the knob recess and a corresponding eight flats are formed on the nose of the bottom tumbler and nose element.

5 4. The combination according to claim 1 wherein the identically shaped radially varying formations formed on the circumferential surface of the knob recess and formed on the circumferential surface on the nose of the bottom tumbler and nose element are identically shaped.

10 5. The combination according to claim 1 wherein said knob and dial element is integrally formed.

15 6. The combination according to claim 1 wherein said bottom tumbler and nose element is integrally formed.

7. The combination according to claim 1 further including means for permanently affixing the knob recess to the tumbler nose in any one of said finite plurality of angularly spaced positions.

20 8. The combination according to claim 7 wherein said means for permanently affixing the knob recess to the tumbler nose comprises a blind pop rivet.

25 9. For use in a permutation lock, the combination of a bottom tumbler and nose element and a knob and dial element:

one element having an axially extending female recess and the other element having an axially extending male nose adapted to fit within the female recess; and

5        a plurality of angularly spaced apart, radially varying mutually interengaging surfaces being formed on the nose surface and the recess surface to key the knob and dial element together with the bottom tumbler and nose element in any one of a finite plurality of relative, angularly spaced apart positions.

10. A combination according to claim 9 wherein said dial is marked with a predetermined number of indicia, and wherein said 10 predetermined number of indicia is equal to or greater than said finite number of angularly spaced apart positions of said elements.